

SUBSTITUTE SPECIFICATION

FINISHING PROCESS

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[0001] This is a continuation of International Patent Application No.
PCT/DE00/02330 designating the United States, filed July 15, 2000, published February
8, 2001 as WO 01/08899, the entire contents of which are incorporated herein by
reference thereto.

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[0002] The invention relates to a process for finishing printed [securities] security
sheets.

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[0003] Watermarks produced during the production of "security papers" are a
well-known security feature of security papers.

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[0004] A watermark can be produced by generating a selectively different
construction on the body of the paper with respect to the thickness and/or the density of
the material by appropriate processes during the manufacture of the paper.

[0005] The desired motifs (such as portraits) can be produced in the paper by the
different construction, for example, by variable light transparency of the material
generated in the paper. In this connection, it is a disadvantage that the motif becomes
clearly visible only when the paper is placed on a light table or held against light.

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Moreover, these papers are worn away heavily during use so that, as a result, it is no
longer possible in some cases to identify the security feature.

[0006] It is an object of the invention to provide a process for finishing printed
security sheets, so that the security features can be identified better.

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[0007] Pursuant to the invention, this objective is accomplished by the
distinguishing feature or features of the first claim.

[0008] By lacquering a printed security paper, especially with a colorless lacquer, the transparency of the paper is increased greatly, depending on the construction of the paper, the type of lacquer, the method of applying the lacquer and the amount applied. If
5 a watermark of a security paper is lacquered on one or both sides, the motif of the watermark is visible more clearly, because of the different transparency, which results from the different construction of the paper. The watermark can be recognized clearly even without help (such as a source of light). This effect is intensified, for example, by sources of light or simply by a dark base.

10 [0009] In the following, the process is explained in greater detail by means of an example. A security sheet with a security feature such as a watermark, is printed in a printing press. Subsequently, that is, after the printing process, the printed security sheet is lacquered in the printing press with a special lacquering device or in an external
15 lacquering facility with a feeding apparatus and a sheet delivery apparatus.

[0010] Advisably, the whole sheet is lacquered and a certain part or parts of the whole sheet, for example, the part of the sheet with the watermark, is lacquered. Partial lacquering improves the identifiability of the security feature and lacquering the whole
20 sheet prolongs the identifiability of the security feature and the service life of the security sheet, when used for a prolonged time.

[0011] Since the manufacturing process of the security sheets may be prolonged by the lacquering process, it is advantageous to carry out the lacquering process, that is,
25 the total and partial lacquering, in one step. For this purpose, a first lacquering unit comprising a lacquering cylinder and a screen roller with a doctor blade is assigned to a printing cylinder and a second lacquering unit comprising a lacquering cylinder and a screen roller with a doctor blade is disposed upstream from the lacquering cylinder.

30 [0012] The lacquering may be carried out with colorless lacquer.

MARKED UP VERSION OF SUBSTITUTE SPECIFICATION

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The invention relates to a process for finishing printed [securities] security sheets.

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[The watermark, which is] Watermarks produced [already] during the production of [the "securities paper",] "security papers" [is] are a well-known [safety] security feature of [securities paper] security papers.

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[Watermarks are produced in that] A watermark can be produced by generating a selectively different construction [of] on the body of the paper with respect to the thickness and/or the density of the material [is achieved] by appropriate processes during the manufacture of the paper.

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The desired motifs (such as portraits) can be produced in the paper by the different construction, [that is] for example, by [the different] variable light transparency of the material [, which is achieved] generated in the paper. In this connection, it is a disadvantage that the motif becomes clearly visible only when the paper is placed on a light table or held against light. Moreover, these papers are worn away heavily during use so that, as a result, it is no longer possible in some cases to identify the [safety] security feature.

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It is an object of the invention to provide a process for finishing printed [securities] security sheets, so that the [safety] security features can be identified better.

Pursuant to the invention, this objective is accomplished by the distinguishing feature or features of the first claim.

5 By lacquering a printed [securities] security paper, especially with a colorless lacquer, the transparency of the paper is increased greatly, depending on the construction of the paper, the type of lacquer, the method of applying the lacquer and the amount applied. If a watermark of a [securities] security paper is lacquered on one or both sides, the motif of the watermark is visible more clearly, because of the different transparency, 10 which results from the different construction of the paper. The watermark can be recognized clearly even without help (such as a source of light). This effect is intensified, for example, by sources of light or simply by a dark base.

In the following, the process is explained in greater detail by means of an 15 example. A [securities] security sheet [, which has been provided, for example,] with [safety] a security [features] feature such as [watermarks] a watermark, is printed in a printing press. Subsequently, that is, after the printing process, the printed [securities] security sheet is lacquered in the printing press with a special lacquering device or in an external lacquering facility with a feeding apparatus and a sheet delivery apparatus.

20 Advisably, the whole sheet is lacquered and a certain part or parts of the whole sheet, [that is,] for example, the part of the sheet with the watermark, [are] is lacquered. Partial lacquering improves the identifiability of the [safety features] security feature and lacquering the whole sheet prolongs the identifiability of the [safety features] security 25 feature and the service life of the [securities] security sheet, when [the latter are] used for a prolonged time.

[So that] Since the manufacturing process of the [securities] security sheets may 30 be [is] prolonged by the lacquering process, it is advantageous to carry out the lacquering process, [namely] that is, the total and partial lacquering, in one step. For this purpose, a first lacquering unit[,] comprising a lacquering cylinder and a screen roller with a doctor

FINISHING PROCESS

5 The invention relates to a process for finishing printed securities sheets.

The watermark, which is produced already during the production of the "securities paper", is a well-known safety feature of securities paper.

10 Watermarks are produced in that a selectively different construction of the body of the paper with respect to the thickness and/or the density of the material is achieved by appropriate processes during the manufacture of the paper.

The desired motifs (such as portraits) can be produced in the paper by the different construction, that is, by the different light transparency of the material, which is achieved. In this connection, it is a disadvantage that the motif becomes clearly visible only when the paper is placed on a light table or held against light. Moreover, these papers are worn away heavily during use so that, as a result, it is no longer possible in some cases to identify the safety feature.

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It is an object of the invention to provide a process for finishing printed securities sheets, so that the safety features can be identified better.

Pursuant to the invention, this objective is accomplished by the distinguishing
25 features of the first claim.

By lacquering printed securities paper, especially with a colorless lacquer, the transparency of the paper is increased greatly, depending on the construction of the paper, the type of lacquer, the method of applying the lacquer and the amount applied. If a watermark of a securities paper is lacquered on one or both sides, the motif of the watermark is visible more clearly, because of the different transparency, which results

from the different construction of the paper. The watermark can be recognized clearly even without help (such as a source of light). This effect is intensified, for example, by sources of light or simply by a dark base.

5 In the following, the process is explained in greater detail by means of an example. A securities sheet, which has been provided, for example, with safety features such as watermarks, is printed in a printing press. Subsequently, that is, after the printing process, the printed securities sheet is lacquered in the printing press with a special lacquering device or in an external lacquering facility with a feeding apparatus and a
10 sheet delivery apparatus.

Advisably, the whole sheet is lacquered and certain parts of the whole sheet, that is, the part of the sheet with the watermark, are lacquered. Partial lacquering improves the identifiability of the safety features and lacquering the whole sheet prolongs the
15 identifiability of the safety features and the service life of the securities, when the latter are used for a prolonged time.

So that the manufacturing process of the securities is prolonged by the lacquering, it is advantageous to carry out the lacquering process, namely the total and partial
20 lacquering, in one step. For this purpose, a first lacquering unit, comprising a lacquering cylinder and a screen roller with doctor blade, is assigned to a printing cylinder and a second lacquering unit, comprising a lacquering cylinder and screen roller with doctor blade, is disposed upstream from the lacquering cylinder.

25 The lacquering is carried out with colorless lacquer.